

CLAIMS:

1. A method for detection and improving of visual attention in a patient, said method comprising:
 - a) generating of at least one group of visually recognizable stimuli, said stimuli being presented by alphanumeric signs displayed in a running mode defined by a time gap between consecutive stimuli
 - b) exposing the patient to the stimuli
 - c) determining the ability of the patient to recognize the stimuli
 - d) varying the time gap between the stimuli in accordance with the patient's ability to recognize the stimuli.
2. The method as defined in claim 1, in which said alphanumeric signs are emulated by virtue of lights of an array, in which said lights are arranged as a dot matrix.
3. The method as defined in claim 2, in which said lights are illuminated within the array to present a consequence of columns, said columns being fragments of stimuli, and said columns creating illusion of moving stimuli.
4. The method as defined in claim 1, in which said time gap is kept between 58 and 464 milliseconds.
5. The method as defined in claim 1, in which said alphanumeric signs are selected from the group consisting of letters and numbers.
6. The method as defined in claim 1, in which said stimuli are selected from the group consisting of letters, words, numbers and pictures.
7. The method as defined in claim 1, in which said patient is selected from the group consisting of children and adults. The method as defined in claim 1, said method comprising
 - a) a preliminary training step, in which the patient is exposed to the stimuli displayed at a time gap, which is set to match the within visual persistence frequency range limit of the human visual system of a normal person, who does not suffer from visual attention deficit
 - b) a diagnostic step, in which the patient is exposed to consecutive groups of stimuli, which are displayed at least at a first and at a second time

gap, said second time gap being larger than the first time gap and said diagnostic step results in establishing whether the patient suffers from visual attention deficit

- c) a treatment step, in which the patient suffering from visual attention deficit is exposed to those groups of stimuli, which were displayed at the diagnostic step, but the patient recognized only part of the stimuli within a group, wherein the patient is exposed to a group containing unrecognized stimuli, which is displayed at an intermediate time gap, said intermediate time gap lies between the first time gap and the second time gap.
8. The method as defined in claim 8, in which during the preliminary training step the patient is exposed to a single group of stimuli displayed at an invariant time gap and during the diagnostic step the patient is exposed to several groups of stimuli, each group being displayed at a different time gap.
 9. The method as defined in claim 9, in which the single group displayed at the preliminary training step comprises 10-20 stimuli, which are letters, words and numbers and each group displayed at the diagnostic step comprises 6 stimuli, which are randomly selected words.
 10. The method as defined in claim 8, in which the groups of stimuli displayed at the diagnostic step are not identical.
 11. The method as defined in claim 8, in which during the diagnostic step the patient is exposed to 9 consecutive groups of stimuli, wherein each three groups are displayed at different time gaps.
 12. The method as defined in claim 12, in which the consecutive groups are displayed at the time gap of 80, 144 and 180 milliseconds.
 13. The method as defined in claim 8, in which establishing whether the patient suffers from visual attention deficit depends on the amount of stimuli correctly recognized by the patient at the diagnostic step.
 14. The method as defined in claim 9, in which during the preliminary training step the single group of stimuli is displayed at least three times, each time at different time gap and during each time the amount of correctly recognized stimuli is recorded and the patient proceeds to the diagnostic step if he recognizes 90% of the stimuli.

15. The method as defined in claim 9, in which during the diagnostic step each group of stimuli is displayed at least three times, each time at different time gap and during each time the amount of correctly recognized stimuli is recorded.
16. The method as defined in claim 14, in which a patient is attributed as suffering from visual attention deficit when the amount of correctly recognized stimuli referring to the same group is less than 90%.
17. The method as defined in claim 13, in which during the treatment step the patient is exposed to consecutive groups of stimuli displayed at a first, second and third time gap, wherein the first time gap is shorter than the second time gap and the second time gap is shorter than the third time gap, wherein each time when the patient failed to recognize 90% of stimuli from a group displayed at the third time gap, but succeeded to recognize 90% of stimuli from a group displayed at the second time gap the patient is exposed to a group of stimuli displayed at an intermediate time gap, which lies between the third and the second time gap.
18. The method as defined in claim 18, in which each time when the patient failed to recognize 90% of stimuli from a group displayed at the intermediate time gap the patient is exposed to a group of stimuli displayed at a new time gap, which lies between the intermediate time gap and the second time gap and each time when the patient succeeded to recognize 90% of stimuli from a group displayed at the intermediate time gap the patient is exposed to a group of stimuli displayed at a new time gap, which lies between the intermediate time gap and the third time gap.
19. The method as defined in claim 19, in which the intermediate time gap is set to be an arithmetic average from the third time gap and the second time gap.
20. The method as defined in claim 19, in which the new time gap is set to be an arithmetic average from the intermediate time gap and the second time gap.
21. The method as defined in claim 19, in which the new time gap is set to be an arithmetic average from the intermediate time gap and the third time gap.
22. A system for detection and improving of visual attention in a patient, said system comprising:
 - a) a display means capable to generate at least one group of visually recognizable stimuli, said stimuli being

presented by alphanumeric signs displayed in a running mode with a time gap between consecutive stimuli, said display means is suitable to create illusion of alphanumeric signs linearly moving in one direction,

- b) a control means, communicating with the display means and suitable for modifying parameters of the display means as well as recording, storing and statistical evaluation of the patient's ability to recognize the displayed stimuli.

- 23. The system as defined in claim 23, in which said display means is capable to emulate the alphanumeric signs by virtue of lights of an array, in which said lights are arranged as a dot matrix.
- 24. The system as defined in claim 24, in which said lights are illuminated within the array to present a consequence of moving columns, said columns being fragments of stimuli.
- 25. The system as defined in claim 23, in which said control means is a PC and said display means is a graphic display with a settable time gap between the consecutive columns.
- 26. The system as defined in claim 26, in which the time gap is settable to be longer than the time range associated with visible persistence limit of a patient without visual attention deficit.
- 27. The system as defined in claim 26, in which said control means is capable to set the time gap between 80 and 180 milliseconds.
- 28. The system as defined in claim 23, in which said display means is a screen of a computer.
- 29. The system as defined in claim 23, in which said display means is a screen of TV set.
- 30. The system as defined claim 23, in which said display means is mountable on a patient's head to be in front of his eyes.